

Analysis of household water-based paints for forensic purpo

Abstract

House break-ins involving a window or door that has been prised open are often encountered in burglary cases. A paint fragment constitutes trace contact evidence of significant importance in such cases and can help forensic scientists to link a suspect to the crime scene. The origin and the identity of unknown paint fragments are often investigated by comparing with known paint samples. In this study, thirteen household paint samples collected from various sources were examined in terms of their colour, solubility in seven different types of solvents, and by infrared analysis. Most paint samples were found to dissolve in pyridine, dichloromethane and 1,2-dichlorobenzene. Six diagnostic peaks were selected for infrared analyses. The presence or absence of these peaks, corresponding to six functional groups, enabled discrimination between the analyzed paint samples.